

**Notice of Allowability**

Application No.

09/801,000

Applicant(s)

PARK, WON HYOUNG

Examiner

Art Unit

Jean B. Corielus

2637

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 4/20/05.
2. ☒ The allowed claim(s) is/are 1, 3-9 and 12-14, renumbered as 1-11, respectively.
3. ☒ The drawings filed on 27 September 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).


\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
Jean B. Corielus  
Primary Examiner  
Art Unit: 2637

6/19/05

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Daniel Kim on 6/10/05.

The application has been amended as follows:

#### IN THE CLAIMS:

Claims 1-3, 9, 11-14 have been amended as follow:

1. (Amended) A base station transmitter in a CDMA system, comprising:
  - a base station modem for direct-spectrum spreading PCM data to I-channel and Q-channel CDMA signals;
  - a digital combiner for summing up the spectrum-spread CDMA signals by channels into digital base-band CDMA signals;
  - a digital signal processor for converting the digital base-band CDMA signals into parallel signals with a first data rate and for outputting the parallel signals with a second data rate that is twice a data rate of the first data rate; and
  - an RF processor for converting the digital base-band CDMA signals outputted from the digital signal processor into analog RF CDMA signals; [ .

Art Unit: 2637

2. (Previously presented) The base station transmitter in a CDMA system as claimed in claim 1,]

wherein the digital signal processor includes:

first and second serial-to-parallel converters for converting the digital base-band CDMA signals from the digital combiner into parallel signals;

first and second phase equalizers for compensating phases of the converted parallel digital CDMA signals;

and first and second FIR filters for filtering the digital CDMA signals whose phases were compensated with a predetermined sampling frequency to make the digital CDMA signals have the second data rate.

Claim 2 has been canceled.

Claim 3, line 2, "2" has been changed to --1--.

9. (Currently Amended) A base station transmitter in a CDMA system  
Comprising:

a base station modem for direct-spectrum spreading PCM data to I-channel and Q-channel CDMA signals;

a digital combiner for summing up the spectrum-spread CDMA signals by channels into [the] digital-base-band CDMA signals;

a digital signal processor for converting the digital base-band CDMA signals into parallel signals with a first data rate and for outputting the parallel signals with a second data rate that is twice a data rate of the first data rate; and  
an RF processor for directly converting the digital base-band CDMA signals outputted from the digital signal processor into analog RF CDMA signals without passing the CDMA base-band signals through an IF conversion procedure; [.

11. (Currently Amended) The base station transmitter in a CDMA system as claimed in claim 9,] wherein the digital signal processing includes:

first and second phase equalizers for compensating phases of the converted parallel digital CDMA signals; and

first and second FIR filters for filtering the digital CDMA signals whose phases were compensated with a predetermined sampling frequency to make the digital CDMA signals have the second data rate.

Claim 11 has been cancelled.

Claim 12, line 2, "11" has been changed to --9--.

Claim 13, line 2, "10" has been changed to --9--.

Claim 14, line 3, "for the" has been changed to --from the--.

#### **REASONS FOR ALLOWANCE**

Art Unit: 2637

The following is an examiner's statement of reasons for allowance: an apparatus or system is disclosed. The closest prior art, applicant's admitted prior art fig. 1, Liew, US Patent No. 6,415,153 and Murai et al US Patent No. 6,628,667, disclose similar apparatus or system. However, applicant's admitted prior art fig. 1 Liew and Murai, taken singularly or in combination fail to anticipate or rendered obvious the limitations of "first and second FIR filters for filtering the digital CDMA signals whose phases were compensated with a predetermined sampling frequency to make the digital CDMA signals have the second data rate", in combination with the other claimed limitations, as recited in the base claims.


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Corrielus whose telephone number is 571-272-3020. The examiner can normally be reached on Maxi-Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-3086. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2637

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jean B Corrielus  
Primary Examiner  
Art Unit 2637  
4/10/05